

## WHAT IS CLAIMED IS:

112 1. A method comprising the steps of: consecutively depositing a first etch stop layer, a first compound semiconductor and a second compound semiconductor  
5 layer overlying a semiconductor substrate, the first etch stop layer, the first and second compound semiconductor layers having different compositions from one another, etching the first and second compound semiconductor layers until the etching stops at the first etch stop layer,  
10 and forming a semiconductor laser device including the first etch stop layer and the first and second compound semiconductor layers.

15 2. The method as defined in claim 1 further comprising the steps of:

depositing a second etch stop layer having etching selectivity with respect to the first etch stop layer overlying the semiconductor substrate before the first etch stop layer depositing step; and

20 etching the first etch stop layer using the second etch stop layer.

3. A semiconductor laser device fabricated by the method as defined in claim 1.

4. The semiconductor laser device as defined in claim 3, wherein the first compound semiconductor layer contains at least aluminum, the second compound semiconductor layer contains neither of aluminum nor phosphorus, and the first etch stop layer contains at least phosphorus.

5. The semiconductor laser device as defined in claim 1, wherein the first compound semiconductor layer, the second compound semiconductor layer and the first etch stop layer are an AlGaAs layer, a GaAs layer and an InGaP layer, respectively.

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